

Claims

1. Inflation circuit comprising a compressed fluid source, a compressed fluid supply line connected to the source, a non-return valve interposed in the supply line between a reception chamber and the fluid source, a branch connected to the supply line between the non-return valve and the source, a diversion line connected to the branch, and a calibrated leak device connected to the diversion line in order to form a calibrated leak of compressed fluid from the branch, characterized in that the non-return valve comprises a free differential valve.
2. Circuit according to claim 1, wherein the reception chamber is disposed in the wheel intended to be equipped with a tire, and in that the valve is mounted in an axis of the hub of the wheel.
3. Circuit according to claim 2, wherein the valve is mobile with the wheel.
4. Circuit according to claim 1, wherein it comprises a loss of head device (78) interposed between the reception chamber and the valve.
5. Circuit according to claim 1, wherein the loss of head device (78) interposed is adjustable.
6. Circuit according to claim 1, wherein the free differential valve comprises a hollow ferrule surmounted by a cap and a stopper floating in an inner space of the cap at the top of the ferrule.
7. Circuit according to claim 1, wherein the non-return valve with a free differential valve comprises a circular cylindrical plate (76) with a first diametric perforation communicating with a second perforation starting from a circular face of the plate, a two-way valve with a simple non-return mechanism being mounted opposite to the second perforation.

8. Circuit according to claim 1, wherein the non-return valve comprises a circular cylindrical plate (76) equipped with a circular groove formed in its peripheral face and two toric joints bordering this groove.
9. Circuit according to claim 1, wherein it comprises an actuated valve (EVGF) for isolating the fluid source of the supply line.
10. Circuit according to claim 1, wherein it comprises a valve (EVDG) interposed in the diversion line between the calibrated leak device and the branch.
11. Circuit according to claim 1, wherein it comprises a pressure or output measuring device (CP1) which is connected to the supply line.
12. Circuit according to claim 1, wherein it comprises an adjustment circuit (μC) for controlling the calibrated leak device from a signal issued by a pressure or output measuring device.
13. Circuit according to claim 1, wherein it comprises, on the supply line, additional branches mounted between non-return valves (VA, VB, VC, VD) of plural reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of valves mounted on distribution lines connected to the branches.
14. Circuit according to claim 13, wherein the valves can be controlled independently of one another.
15. Circuit according to claim 1, wherein the leak is calibrated in order to permit total deflation of the chamber in more than 50 seconds.
16. Circuit according to claim 1, wherein the valve comprises a cap with an internal trefoil-shaped profile.

17. Inflation circuit comprising a compressed fluid source, a compressed fluid supply line connected to the source, a non-return valve interposed in the supply line between a reception chamber and the fluid source, a branch connected to the supply line between the non-return valve and the source, a diversion line connected to the branch, and a calibrated leak device connected to the diversion line in order to form a calibrated leak of compressed fluid from the branch, wherein the reception chamber is disposed in a wheel intended to be equipped with a tire, and in that it comprises a loss of head device (78) interposed between the compressed fluid reception chamber of the wheel and the valve.
18. Circuit according to claim 17, wherein the interposed loss of head device (78) is adjustable.
19. Circuit according to claim 17, wherein it comprises a free differential valve.
20. Circuit according to claim 17, wherein it comprises a valve mounted in an axis of the hub of the wheel.
21. Circuit according to claim 17, wherein the free differential valve comprises a hollow ferrule surmounted by a cap and a stopper floating in an inner space of the cap at the top of the ferrule.
22. Circuit according to claim 17, wherein the non-return valve comprises a circular cylindrical plate (76) with a first diametric perforation communicating with a second perforation starting from a circular face of the plate, and a two-way valve with a simple non-return mechanism being mounted opposite to the second perforation.

- 23. Circuit according to claim 17, wherein the non-return valve comprises a circular cylindrical plate (76) equipped with a circular groove formed in its peripheral face and two toric joints bordering this groove.
- 24. Circuit according to claim 17, wherein it comprises an actuated slide valve (EVGF) for isolating the fluid source from the supply line.
- 25. Circuit according to claim 17, wherein it comprises a slide valve (EVDG) interposed in the diversion line between the calibrated leak and the branch.
- 26. Circuit according to claim 17, wherein it comprises a pressure or output measuring device (CP1) connected to the supply line.
- 27. Circuit according to claim 17, wherein it comprises an adjustment circuit (μ C) for controlling the calibrated leak device from a signal issued by a pressure or output measuring device.
- 28. Circuit according to claim 17, wherein it comprises, on the supply line, supplementary branches mounted between the non-return valves (VA, VB, VC, VD) of plural reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of slide valves mounted on distribution lines connected to the branches.
- 29. Circuit according to claim 28, wherein the valves can be controlled independently of one another.
- 30. Circuit according to claim 17, wherein the leak is calibrated to permit total deflation of the chamber in more than 50 seconds.
- 31. Inflation circuit of a wheel intended to be equipped with a tire, the circuit comprising an interposed non-return valve and a hub intended to receive the

wheel, the hub having an axis of rotation, wherein it comprises as a non-return valve a two-way valve mounted in the axis of rotation of the hub.

32. Circuit according to claim 31, wherein the two-way valve is mobile with the wheel.
33. Circuit according to claim 31, wherein it comprises a compressed fluid source, a supply line for the compressed fluid connected to the source, the non-return valve being interposed in the supply line between a reception chamber of the wheel and the fluid source, a branch connected to the supply line between the non-return valve and the source, a diversion line connected to the branch, and a calibrated leak device connected to the diversion line in order to realize a calibrated leak of compressed fluid from the branch, the non-return valve comprising a free differential valve.
34. Circuit according to claim 31, wherein it comprises a loss of head device (78) interposed between a compressed fluid reception chamber of the wheel and the valve.
35. Circuit according to claim 34, wherein the interposed loss of head device (78) is adjustable.
36. Circuit according to claim 31, wherein it comprises a free differential valve.
37. Circuit according to claim 35, wherein the valve comprises a hollow ferrule surmounted by a cap and a stopper floating in an inner space of the cap at the top of the ferrule.
38. Circuit according to claim 31, wherein the non-return valve comprises a circular cylindrical plate (76) with a first diametric perforation communicating with a second perforation starting from a circular face of the plate, a two-way valve with a simple non-return mechanism being mounted opposite to the second perforation.

39. Circuit according to claim 31, wherein the non-return valve comprises a circular cylindrical plate (76) equipped with a circular groove formed in its peripheral face and two toric joints bordering the groove.
40. Circuit according to claim 31, wherein it comprises an actuated slide valve (EVGF) for isolating the fluid source from the supply line.
41. Circuit according to claim 31, wherein it comprises a slide valve (EVDG) interposed in the diversion line between the calibrated leak device and the branch.
42. Circuit according to claim 31, wherein it comprises a pressure or output measuring device (CP!) connected to the supply line.
43. Circuit according to claim 31, wherein it comprises an adjustment circuit (μC) for controlling the calibrated leak device from a signal issued by a pressure or output measuring device.
44. Circuit according to claim 31, wherein it comprises, on the supply line, supplementary branches mounted between non-return valves (VA, VB, VC, VD) of plural reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of slide valves mounted on distribution lines connected to the branches.
45. Circuit according to claim 44, wherein the slide valves can be controlled independently of one another.
46. Circuit according to claim 31, wherein the leak is calibrated to allow total deflation of the chamber in more than 50 seconds.
47. Wheel comprising an inflation circuit according to claim 31.